

REFERENCES

- ABR. 2016. Protected-Species Monitoring at the Kodiak Ferry Terminal & Dock Improvements Project, Kodiak, Alaska, 2015–2016.
- Ainley DG, Dugger KM, Toniolo V, Gaffney I. 2007. Cetacean Occurrence Patterns in the Amundsen and Southern Bellingshausen Sea Sector, Southern Ocean. *Marine Mammal Science*. 23(2):287-305.
- Ainley, D. G., Jacobs, S. S., Ribic, C. A., & Gaffney, I. 1998. Seabird distribution and oceanic features of the Amundsen and southern Bellingshausen seas. *Antarctic Science*, 10(2), 111-123. doi:10.1017/s0954102098000169
- Andrews-Goff, Virginia & Hindell, Mark & Field, Iain & Wheatley, Kathryn & Charrassin, Jean-Benoît. (2010). Factors influencing the winter haulout behaviour of Weddell seals: Consequences for satellite telemetry. *Endangered Species Research*. 10. 10.3354/esr00257.
- ANSI (American National Standards Institute). 1986. Methods of measurement for impulse noise 3 (ANSI S12.7-1986). Acoustical Society of America, Woodbury, NY.
- ANSI, 2005. Measurement of sound pressure levels in air (ANSI S1.13-2005). Acoustical Society of America, Woodbury, NY.
- Archer, F.I., S.L. Mesnick, and A.C. Allen. (2010). Variation and predictors of vessel response behavior in a tropical dolphin community. NOAA Technical Memorandum NMFS-SWFSC-457, National Marine Fisheries Service, 60.
- ATS. 2019. *Management plan for Antarctic Specially Managed Area No. 7: southwest Anvers Island and Palmer Basin*. Retrieved from https://documents.ats.aq/recatt/att658_e.pdf
- Au, W.W.L. and M.C. Hastings. 2008. Principles of Marine Bioacoustics. Springer, New York.
- Balcomb KC. 1989. Baird's Beaked Whales – *Berardius bairdii* Stejneger, 1883; Arnoux Beaked Whale – *Berardius arnuxii* Duvernoy, 1851. In: Handbook of Marine Mammals (Ridgway SH, Harrison SR eds.) Vol. 4: River Dolphins and the Larger Toothed Whales. Academic Press, London, pp. 261-288
- Beauchamp, G. and B. Livoreil. 1997. The effect of group size on vigilance and feeding rate in spice finches (*Lonchura punctulata*). *Canadian Journal of Zoology* 75 (9):1526-1531.
- Bejder, L., A. Samuels, H. Whitehead, H. Finn, and S. Allen. (2009). Impact assessment research: Use and misuse of habituation, sensitisation and tolerance in describing wildlife responses to anthropogenic stimuli. *Marine Ecology Progress Series*, 395, 177-185.
- Bettridge S, Baker CS, Barlow J, Clapham P, Ford M, Gouveia D, Matilla DK, Pace RMI, Rosel PE, Silber Gk et al. 2015. Status Review of the Humpback Whale (*Megaptera novaeangliae*) under the Endangered Species Act. National Oceanic and Atmospheric Administration.
- Blackwell, S.B., J.W. Lawson, and M.T. Williams. 2004. Tolerance by ringed seals (*Phoca hispida*) to impact pipe-driving and construction sounds at an oil production island. *Journal of the Acoustical Society of America* 115 (5):2346.

- Blecha, F. 2000. Immune system response to stress. Pages 111-122 in G.P. Moberg and J.A. Mench, eds. *The Biology of Animal Stress: Basic Principles and Implications for Animal Welfare*. CABI Publishing, Oxon, United Kingdom. Bonnell, M.L., M.O. Pierson, and G.D. Farrens. 1983. Pinnipeds and sea otters of central and northern California, 1980-1983: Status, abundance and distribution. Prepared by Center for Marine Studies, University of California for Minerals Management Service: 220.
- Bowles, A.E., M. Smultea, B. Wursig, D.P. DeMaster, and D. Palka. 1994. Relative abundance and behavior of marine mammals exposed to transmissions from the Heard Island feasibility test. *Journal of the Acoustical Society of America* 96 (4):2469-2484.
- Boyd IL, Walker TR, Poncet J. 2004. Status of southern elephant seals at South Georgia. *Antarctic Science*. 8(3):237-244.
- Bengtson, Vern & Copen, Casey & Putney, Norella & Silverstein, Merril. (2009). A Longitudinal Study of the Intergenerational Transmission of Religion. *International Sociology - INT SOCIOLOG.* 24. 325-345. 10.1177/0268580909102911.
- Bradshaw, C.J.A., S. Boutin, and D.M. Hebert. 1998. Energetic implications of disturbance caused by petroleum exploration to woodland caribou. *Canadian Journal of Zoology* 76 (7):1319-1324.
- Branch, Trevor & Stafford, Kathleen & Palacios, Daniel & Allison, C. & Bannister, J. & Burton, Chris & Cabrera, E. & Carlson, C. & Galletti, Barbara & Gill, Peter & Hucke-Gaete, Rodrigo & Jenner, Kenneth & Jenner, M. & Matsuoka, K. & Mikhalev, Yuriy & Miyashita, T. & Morrice, Margaret & Nishiwaki, Shigetoshi & Sturrock, V. & Warneke, R.. (2007). Past and present distribution, densities and movements of blue whales *Balaenoptera musculus* in the Southern Hemisphere and northern Indian Ocean. *Mammal Review*. 37. 116 - 175. 10.1111/j.1365-2907.2007.00106.x.
- Caltrans (California Department of Transportation). 2015. *Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish: Appendix I – Compendium of Pile Driving Sound Data*. Updated November 2015
- Clark CW, Suydam R, George C. 2009. Acoustic Monitoring of the Bowhead Spring Migration off Pt. Barrow, Alaska: Results from 2009 and Status of 2010 Field Effort. Anchorage AK.
- Casper, B.M., M.B. Halvorsen, F. Matthews, T.J. Carlson, and A.N. Popper. (2013). Recovery of barotrauma injuries resulting from exposure to pile driving sound in two sizes of hybrid striped bass. *PLoS ONE*, 8(9), e73844
- Connor, R.C. and M.R. Heithaus. 1996. Approach by great white shark elicits flight response in bottlenose dolphins. *Marine Mammal Science* 12 (4):602-606.
- Costa, D.P., D.E. Crocker, J. Gedamke, P.M. Webb, D.S. Houser, S.B. Blackwell, et al. (2003). The effect of a low-frequency sound source (acoustic thermometry of the ocean climate) on the diving behavior of juvenile northern elephant seals, *Mirounga angustirostris*. *Journal of the Acoustical Society of America*, 113(2), 1155-1165.
- Cott, P.A., A.N. Popper, D.A. Mann, J.K. Jorgenson, and B.W. Hanna. (2012). Impacts of river-based air gun seismic activity on northern fishes. *Advances in Experimental Medicine and Biology*, 730, 367-369

- Croll, D.A., C.W. Clark, J. Calambokidis, W.T. Ellison, and B.R. Tershy. (2001). Effect of anthropogenic low-frequency noise on the foraging ecology of *Balaenoptera* whales. *Animal Conservation*, 4(1), 13-27.
- Daan, S., C. Deerenberg, and C. Dijkstra. 1996. Increased daily work precipitates natural death in the kestrel. *Journal of Animal Ecology* 65 (5):6.
- Dahl P, Reinhall P, Popper A, Hastings M, Ainslie M. 2014. Underwater sound from pile driving, what is it and why does it matter. *The Journal of the Acoustical Society of America*. 135:2312.
- Denes, S. L., Warner, G. J., Austin, M. E., and MacGillivray, A. O. (2016). Hydroacoustic Pile Driving Noise Study - Comprehensive Report. Document 001285, Version 1.0. Technical report by JASCO Applied Sciences for Alaska Department of Transportation & Public Facilities.
- Denes, S.L., Vallarta, J., and D. Zeddies 2019. *Sound Characterization of Down-the-Hole Hammering: Thimble Shoal, Virginia. Document 001888, Version 1.0.* Technical Report by JASCO Applied Sciences for Chesapeake Tunnel Jopiint Venture
- DON. 2008. Final Atlantic Fleet Active Sonar Training Environmental Impact Statement/Overseas Environmental Impact Statement. Norfolk, VA: United States Department of the Navy.
- Durban JW, Fearnbach H, Burrows DG, Ylitalo GM, Pitman RL. 2016. Morphological and ecological evidence for two sympatric forms of Type B killer whale around the Antarctic Peninsula. *Polar Biology*. 40(1):231-236.
- Ellison, W.T., Southall, B.L., Clark, C.W., and Frankel, A.S. 2012. A new context-based approach to assess marine mammal behavioral responses to anthropogenic sounds. *Conservation Biol.* 1:21-28.
- Evans, D.L. and G.R. England. 2001. Joint interim report: Bahamas marine mammal stranding event of 15-16 March 2000. U.S. Navy and National Marine Fisheries Service: 66.
- Everitt, R.D., C.H. Fiscus, and R.L. DeLong. 1980. Northern Puget Sound marine mammals. Interagency Energy/Environment R&D Program Report EPA-600/7-80-139, Prepared by National Marine Fisheries Service for Environmental Protection Agency 150p.
- Erbe C, Dähne M, Gordon J, Herata H, Houser DS, Koschinski S, Leaper R, McCauley R, Miller B, Müller M et al. 2019. Managing the Effects of Noise From Ship Traffic, Seismic Surveying and Construction on Marine Mammals in Antarctica. *Frontiers in Marine Science*. 6.
- Erickson AW, Hanson MB. 1990. Continental Estimates and Population Trends of Antarctic Ice Seals. Berlin: Springer-Verlag.
- Fair, P.A. and P.R. Becker. 2000. Review of stress in marine mammals. *Journal of Aquatic Ecosystem Stress and Recovery* 7 (4):335-354.
- Fay, R.R. 2009. Soundscapes and the sense of hearing of fishes. *Integrative Zoology* 4: 26-32.
- Fay, R.R., A.N. Popper, and J.F. Webb. (2008). Introduction to fish bioacoustics. *In*: Webb, J.F., R.R.

- Fay, and A.N. Popper, eds. Fish Bioacoustics. Springer Handbook of Auditory Research 32, 1-15.
- Félix, Jorge Acevedo, Anelio Aguayo-Lobo, Isabel C. Ávila⁴, Natalia Botero-Acosta⁵, Andrea Calderón, Benjamín Cáceres, Juan Capella, Romina Carnero, Cristina Castro, Ted Cheeseman, Luciano Dalla Rosa, Natalia Dellabianca, Judith Denking, Ari Friedlaender, Héctor Guzmán, Ben Haase, Daniela Haro, Rodrigo Hucke-Gaete, Martha Llano, Lenin Oviedo, Aldo Pacheco, Juan Pacheco, Daniel M. Palacios, José Palacios-Alfaro, Logan Pallin, María José Pérez, Kristin Rasmussen, Cristina Sanchez-Godinez, Luis Santillán, Eduardo Secchi¹², Mónica A. Torres, Edgar Vásquez. 2021. Humpback Whale Breeding Stock G: Updated Population Estimate Based On Photo-Id Matches Between Breeding And Feeding Areas. SC/68C/ASI/02 Sub-committees/working group name: ASI
- Fewtrell, J.L., and R.D. McCauley. (2012). Impact of air gun noise on the behaviour of marine fish and squid. *Marine Pollution Bulletin*, 64, 984-993.
- Finneran, J., R. Dear, D.A. Carder, and S.H. Ridgway. 2003. Auditory and behavioral responses of California sea lions (*Zalophus californianus*) to single underwater impulses from an arc-gap transducer. *The Journal of the Acoustical Society of America*, 114(3): 1667-1677.
- Finneran, J. J., Carder, D. A., Schlundt, C. E., and Ridgway, S. H. (2005). "Temporary threshold shift (TTS) in bottlenose dolphins (*Tursiops truncatus*) exposed to mid-frequency tones," *J. Acoust. Soc. Am.* 118, 2696–2705.
- Finneran, J.J. and A.K. Jenkins. (2012). Criteria and thresholds for U.S. Navy acoustic and explosive effects analysis. Technical Report, Space and Naval Warfare Systems Center Pacific, U.S. Navy, 64 pp.
- Finneran, J.J., C.E. Schlundt, R. Dear, D.A. Carder, and S.H. Ridgway. 2002. Temporary shift in masked hearing thresholds in odontocetes after exposure to single underwater impulses from a seismic watergun. *Journal of the Acoustical Society of America* 111 (6):2929.
- Foot, A.D., R.W. Osborne, and A.R. Hoelzel. 2004. Whale call response to masking boat noise. *Nature* 428:910.
- Forcada, Jaume & Staniland, Iain. (2009). Antarctic Fur Seal. 10.1016/B978-0-12-373553-9.00010-9.
- Frankel, A.S. and C.W. Clark. (2000). Behavioral responses of humpback whales (*Megaptera novaeangliae*) to full-scale ATOC signals. *Journal of the Acoustical Society of America*, 108(4), 1930-1937.
- Friedlaender AS, Goldbogen JA, Nowacek DP, Read AJ, Johnston D, Gales N. 2014. Feeding rates and under-ice foraging strategies of the smallest lunge filter feeder, the Antarctic minke whale (*Balaenoptera bonaerensis*). *J Exp Biol.* 217(Pt 16):2851-2854.
- Fristrup, K.M., Hatch, L.T. & Clark, C.W. 2003. Variation in humpback whale (*Megaptera novaeangliae*) song length in relation to low-frequency sound broadcasts. *Journal of the Acoustical Society of America*, 113, 3411–3424
- Fritz, L., K. Sweeney, D. Johnson, M. Lynn, T. Gelatt, and J. Gilpatrick. 2013. Aerial and ship-based surveys of Steller sea lions (*Eumetopias jubatus*) conducted in Alaska in June-July 2008 through 2012, and an update on the status and trend of the western distinct population segment in Alaska. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-

251, 91 p.

- Gailey, G., B. Wursig, and T.L. McDonald. 2007. Abundance, behavior, and movement patterns of western gray whales in relation to a 3-D seismic survey, northeast Sakhalin Island, Russia. *Environmental Monitoring and Assessment* 134 (1-3):75-91.
- Gohl K. 2010. The Expedition of the Research Vessel "Polarstern" to the Amundsen Sea, Antarctica, in 2010 (ANT-XXVI/3). Bremerhaven, Germany: Alfred-Wegener-Institut Für Polar-Und Meeresforschung.
- Goldbogen, J.A., J. Calambokidis, A.S. Friedlaender, J. Francis, S.L. Deruiter, A.K. Stimpert, et al. (2013a). Underwater acrobatics by the world's largest predator: 360° rolling manoeuvres by lunge-feeding blue whales. *Biology Letters*, 9(1):Article 20120986.
- Goldbogen, J.A., A.S. Friedlaender, J. Calambokidis, M.F. McKenna, M. Simon, and D.P. Nowacek. (2013b). Integrative approaches to the study of baleen whale diving behavior, feeding performance, and foraging ecology. *BioScience*, 63(2), 90-100.
- Goold, J.C. 1996. Acoustic assessment of populations of common dolphin *Delphinus delphis* in conjunction with seismic surveying. *Journal of the Marine Biological Association of the United Kingdom* 76 (3):811-820.
- Gurarie E, Bengtson JL, Bester MN, Blix AS, Cameron M, Bornemann H, Nordøy ES, Plötz J, Steinhage D, Boveng P. 2016. Distribution, density and abundance of Antarctic ice seals off Queen Maud Land and the eastern Weddell Sea. *Polar Biology*. 40(5):1149-1165.
- Halvorsen, M.B., D.G. Zeddies, W.T. Ellison, D.R. Chicoine, and A.N. Popper. (2012a). Effects of mid-frequency active sonar on hearing in fish. *Journal of the Acoustical Society of America*, 131(1), 599-607
- Harrington, F.H. and A.M. Veitch. 1992. Calving success of woodland caribou exposed to low-level jet fighter overflights. *Arctic* 45 (3):213-218.
- Hastings, M.C. and A.N. Popper. (2005). Effects of sound on fish. Prepared by Jones & Stokes for the California Department of Transportation: 82.
- Hemilä, S., S. Nummela, A. Berta, and T. Reuter. 2006. High-frequency hearing in phocid and otariid pinnipeds: An interpretation based on inertial and cochlear constraints (L). *Journal of the Acoustical Society of America* 120 (6):3463-3466.
- Herr H, Viquerat S, Siegel V, Kock K-H, Dorschel B, Huneke WGC, Bracher A, Schröder M, Gutt J. 2016. Horizontal niche partitioning of humpback and fin whales around the West Antarctic Peninsula: evidence from a concurrent whale and krill survey. *Polar Biology*. 39(5):799-818.
- Hewitt, C. L., Campbell, M. L., Thresher, R. E., Martin, R. B., Boyd, S., Cohen, B. F., ... Wilson, R. S. (2004). Introduced and cryptogenic species in Port Phillip Bay, Victoria, Australia. *Marine Biology*, **144**(1), 183– 202. <https://doi.org/10.1007/s00227-003-1173-x>
- Hindell MA, McMahon CR, Bester MN, Boehme L, Costa D, Fedak MA, Guinet C, Herraiz-Borreguero L, Harcourt RG, Huckstadt L et al. 2016. Circumpolar habitat use in the southern elephant seal: implications for foraging success and population trajectories. *Ecosphere*. 7(5).
- Hiruki LM, Schwartz MK, Boveng PL. 1999. Hunting and social behaviour of leopard seals (*Hydrurga leptonyx*) at Seal Island, South Shetland Islands, Antarctica. Lincoln, NE.

- Holberton, R.L., B. Helmuth, and J.C. Wingfield. 1996. The corticosterone stress response in gentoo and king penguins during the non-fasting period. *Condor* 98 (4):850-854.
- Holt, M.M., D.P. Noren, V. Veirs, C.K. Emmons, and S. Veirs. 2009. Speaking up: Killer whales (*Orcinus orca*) increase their call amplitude in response to vessel noise. *Journal of the Acoustical Society of America* 125 (1):EL27-32.
- Hood, L.C., P.D. Boersma, and J.C. Wingfield. 1998. The adrenocortical response to stress in incubating Magellanic penguins (*Spheniscus magellanicus*). *Auk* 115 (1):76-84.
- Hoelzel, Rus & Fleischer, R. & Campagna, Claudio & Le Boeuf, Burney & Alvord, W.. (2002). Impact of a population bottleneck on symmetry and genetic diversity in the northern elephant seal *Mirounga angustirostris*. *Journal of Evolutionary Biology*. 15. 567 - 575. 10.1046/j.1420-9101.2002.00419.x.
- Jackson, Jennifer A. Jackson, Alex Zerbini, Phil Clapham, Claire Garrigue, Nan Hauser, Michael Poole, C. Scott Baker. 2006. A Bayesian assessment of humpback whales on breeding grounds of Eastern Australia and Oceania (IWC Stocks E, El, E2 and F). For Consideration by the Inter-sessional Workshop for THE Comprehensive Assessment of Southern Hemisphere Humpback whales Hobart, Tasmania 3-7 April 2006. SC/A06/HW52
- Jessop, T.S., A.D. Tucker, C.J. Limpus, and J.M. Whittier. 2003. Interactions between ecology, demography, capture stress, and profiles of corticosterone and glucose in a free-living population of Australian freshwater crocodiles. *General and Comparative Endocrinology* 132 (1):161-170.
- Johnston, D.W., A. S. Friedlaender¹, A. J. Read¹, D. P. Nowacek. 2012. Initial density estimates of humpback whales *Megaptera novaeangliae* in the inshore waters of the western Antarctic Peninsula during the late autumn. *Endangered Species Research* 18:63-71.
- Kastak, D., B.L. Southall, R.J. Schusterman, and C.R. Kastak. 2005. Underwater temporary threshold shift in pinnipeds: Effects of noise level and duration. *Journal of the Acoustical Society of America* 118 (5):3154-3163.
- Kastelein, Ronald & Gransier, Robin & Hoek, Lean. (2015). Cumulative Effects of Exposure to Continuous and Intermittent Sounds on Temporary Hearing Threshold Shifts Induced in a Harbor Porpoise (*Phocoena phocoena*). *Advances in experimental medicine and biology*. 875. 523-528. 10.1007/978-1-4939-2981-8_63.
- Kastelein, R.A., Schop, J., Gransier, R., and Hoek, L. 2014. Frequency of greatest temporary hearing threshold shift in harbor porpoise (*Phocoena phocoena*) depends on the noise level. *Journal of the Acoustical Society of America* 136:1410-1418.
- Kastelein, R.A., P. Wensveen, L. Hoek, and J.M. Terhune. 2009. Underwater hearing sensitivity of harbor seals (*Phoca vitulina*) for narrow noise bands between 0.2 and 80 kHz. *Journal of the Acoustical Society of America* 126 (1):476-483.
- Kastelein, R.A., R. Van Schie, W.C. Verboom, and D. de Haan. 2005a. Underwater hearing sensitivity of a male and a female Steller sea lion (*Eumetopias jubatus*). *Journal of the Acoustical Society of America* 118 (3):1820-1829.

- Kastelein, R.A., W.C. Verboom, M. Muijsers, N.V. Jennings, and S. Van der Heul. 2005b. The influence of acoustic emissions for underwater data transmission on the behavior of harbour porpoises (*Phocoena phocoena*) in a floating pen. *Marine Environmental Research* 59:287-307.
- Jacobs S, Jenkins A, Hellmer H, Giulivi C, Nitsche F, Huber B, Guerrero R. 2012. The Amundsen Sea and the Antarctic Ice Sheet. *Oceanography*. 25(3):154-163.
- Jefferson TA, Webber MA, Pitman RL. 2008. *Marine mammals of the world: A comprehensive guide to their identification*. San Diego, CA: Academic Press.
- Johnston DW, Friedlaender AS, Read AJ, Nowacek DP. 2012. Initial density estimates of humpback whales *Megaptera novaeangliae* in the inshore waters of the western Antarctic Peninsula during the late autumn. *Endangered Species Research*. 18(1):63-71.
- Jorgenson, J.K., and E.C. Gyselman. (2009). Hydroacoustic measurements of the behavioral response of arctic riverine fishes to seismic airguns. *Journal of the Acoustical Society of America*, 126(3), 1598-1606
- Kasamatsu F, Joyce GG. 1995. Current status of Odontocetes in the Antarctic. *Antarctic Science*. 7(4):365-379.
- Lankford, S.E., T.E. Adams, R.A. Miller, and J.J. Cech. 2005. The cost of chronic stress: Impacts of a nonhabituating stress response on metabolic variables and swimming performance in sturgeon. *Physiological and Biochemical Zoology* 78:599-609.
- Lerma, D. 2014. Naval Base Point Loma Fleet Logistics Center Fuel Pier Replacement Project: Acoustic, marine mammal, green sea turtle, and California least tern monitoring report. Prepared by Tierra Data Inc. for Naval Facilities Engineering Command Southwest, 250 p
- Lusseau, D. and L. Bejder. (2007). The long-term consequences of short-term responses to disturbance experiences from whalewatching impact assessment. *International Journal of Comparative Psychology*, 201(2-3), 228-236.
- Madsen, P.T., M. Johnson, P.J.O. Miller, N.A. Soto, J. Lynch, and P. Tyack. (2006). Quantitative measures of air-gun pulses recorded on sperm whales (*Physeter macrocephalus*) using acoustic tags during controlled exposure experiments. *Journal of the Acoustical Society of America*, 120(4), 2366-2379.
- MacLeod CD, Santose MB, Pierce GJ. 2003. Review of data on diets of beaked whales: evidence of niche separation and geographic segregation. *Journal of the Marine Biological Association of the UK*.
- McCauley RD, Day RD, Swadlow KM, Fitzgibbon QP, Watson RA, Semmens JM. 2017. Widely used marine seismic survey air gun operations negatively impact zooplankton. *Nat Ecol Evol*.
- McMahon, Clive & Hindell, Mark & Burton, H. & Bester, Marthán. (2005). Comparison of southern elephant seal populations, and observations of a population on a demographic knife-edge. *Marine Ecology Progress Series*. 288. 273-283. 10.3354/meps288273.
- Miller, P.J.O., N. Biassoni, A. Samuels, and P.L. Tyack. 2000. Whale songs lengthen in response to sonar. *Nature* 405 (6789):903.

- Morton, A.B. and H.K. Symonds. (2002). Displacement of *Orcinus orca* (L.) by high amplitude sound in British Columbia, Canada. *ICES Journal of Marine Science*, 59 (1), 71-80.
- NMFS. 2018. Revision to: technical guidance for assessing the effects of anthropogenic sound on marinemammal hearing (Version 2.0), underwater thresholds for onset of permanent and temporary threshold shifts. U.S. Department of Commerce, NOAA. No. NMFS/OPR-59.
- NMFS. 2020. Biological Opinion on the National Science Foundation's LowEnergy Marine Geophysical Survey by the Research Vessel/Icebreaker *Nathaniel B. Palmer* in the Amundsen Sea.
- NOAA. 2015. Seismic survey by the National Science Foundation and the Antarctic Support Center in the Ross Sea, Endangered Species Act Section 7 Biological Opinion, and Issuance of an Incidental Harassment Authorization pursuant to Section 101(a)(5)(D) of the Marine Mammal Protection Act. Department of Commerce, National Oceanic and Atmospheric Administration.
- Moberg, G.P. 1987. Influence of the adrenal axis upon the gonads. Pages 456-496 in J. Clarke, ed. Oxford Reviews in Reproductive Biology. Oxford University Press, New York, New York.
- Moberg, G.P. 2000. Biological response to stress: Implications for animal welfare. Pages 1-21 in G.P. Moberg and J.A. Mench, eds. *The Biology of Animal Stress: Basic Principles and Implications for Animal Welfare*. CABI Publishing, Oxon, United Kingdom.
- Ng, S.L. and S. Leung. (2003). Behavioral response of Indo-Pacific humpback dolphin (*Sousa chinensis*) to vessel traffic. *Marine Environmental Research*, 56(5), 555-567.
- NIOSH (National Institute for Occupational Safety and Health). 1998. Criteria for a recommended standard: Occupational noise exposure. United States Department of Health and Human Services, Cincinnati, OH.
- NMFS. 2020. Biological Opinion on the National Science Foundation's LowEnergy Marine Geophysical Survey by the Research Vessel/Icebreaker *Nathaniel B. Palmer* in the Amundsen Sea.
- Nowacek, D.P., L.H. Thorne, D.W. Johnston, and P.L. Tyack. (2007). Responses of cetaceans to anthropogenic noise. *Mammal Review*, 37(2), 81-115.
- NRC. 2005. Marine Mammal Populations and Ocean Noise: Determining When Noise Causes Biologically Significant Effects. Washington DC: National Research Council.
- Parks, S.E., Ketten, D.R., O'Malley, J.T. and Arruda, J., 2007a. Anatomical predictions of hearing in the North Atlantic right whale. *The Anatomical Record*, 290(6), pp.734-744.
- Parks, S.E., C.W. Clark, and P.L. Tyack. 2007b. Short- and long-term changes in right whale calling behavior: The potential effects of noise on acoustic communication. *Journal of the Acoustical Society of America* 122 (6):3725-3731.
- Paxton, A.B., J.C. Taylor, D.P. Nowacek, J. Dale, E. Cole, C.M. Voss, and C.H. Peterson.

- (2017). Seismic survey noise disrupted fish use of a temperate reef. *Marine Policy*, 78, 68-73.
- Pearson, W.H., J.R. Skalski, and C.I. Malme. (1992). Effects of sounds from a geophysical survey device on behavior of captive rockfish (*Sebastes* spp.). *Canadian Journal of Fisheries and Aquatic Sciences*, 49, 1343-1356.
- Peña, H., Handegard, N. O., and Ona, E. 2013. Feeding herring schools do not react to seismic air gun surveys. *ICES Journal of Marine Science*, 70(6), 1174-1180.
- Pitman RL, Ensor P. 2003. Three forms of killer whales (*Orcinus orca*) in Antarctic waters. *Journal of Cetacean Research Management*. 5(2):9.
- Pitman, John W. Durban, Michael Greenfelder, Christophe Guinet, Morton Jorgensen, Paula A. Olson, Jordi Plana, Paul Tixier, Jared R. Tower. 2010. Observations of a distinctive morphotype of killer whale (*Orcinus orca*), type D, from subantarctic waters. *Polar Biol* 34:303-306.
- Popper, A.N. and M.C. Hastings. (2009). The effects of anthropogenic sources of sound on fishes. *Journal of Fish Biology*, 75(3), 455-489.
- Popper AN, Hawkins AD, Halvorsen MB. 2019. Anthropogenic Sound and Fishes. State of Washington Department of Transportation.
- Purser, J. and A.N. Radford. 2011. Acoustic noise induces attention shifts and reduces foraging performance in three-spined sticklebacks (*Gasterosteus aculeatus*). *PLoS ONE* 6 (2):e17478.
- Reichmuth, C. and M.M. Holt. (2013). Comparative assessment of amphibious hearing in pinnipeds. *Journal of Comparative Physiology A: Neuroethology, Sensory, Neural and Behavioral Physiology*, 199(6), 491-507.
- Reilly S, Hedley S, Borberg J, Hewitt R, Thiele D, Watkins J, Naganobu M. 2004. Biomass and energy transfer to baleen whales in the South Atlantic sector of the Southern Ocean. *Deep Sea Research Part II: Topical Studies in Oceanography*. 51(12-13):1397-1409.
- Reyff and Heyvaert 2019. *White Pass & Yukon Railroad Mooring Dolphin Pile Driving and Drilling Sound Source Verification*. Skagway, Alaska. August 22.
- Reyff. 2000. *Review of Down-the-Hole Rock Socket Drilling Acoustic Data Measured for White Pass & Yukon Route (WP&YR) Mooring Dolphins*. May 28.
- Reyff, J. 2018. Demolition of Existing Tappan Zee Bridge. Summary of Underwater Sound Measurements for Mechanical Demolition of Concrete Pile Caps at Piers 114 and 115, Circular Caisson at Pier 166, and Rectangular Caisson at Pier 170. To David Capobianco, New York State Thruway Authority. December 18, 2020.
- Reyff, J. 2018. Demolition of Existing Tappan Zee Bridge Subject: Summary of Underwater Sound Measurements for Mechanical Demolition of Ice Breakers at Piers 173 and 169. To Kristine Edwards, New York State Thruway Authority. January 10, 2018.
- Richardson WJ, Greene Jr. CR, Malme CI, Thomson DH. 1995. *Marine Mammals and Noise*. San Diego: Academic Press.

- Ridgway, S.H., D.A. Carder, R.R. Smith, T. Kamolnick, C.E. Schlundt, and W.R. Elsberry. (1997). Behavioral responses and temporary shift in masked hearing threshold of bottlenose dolphins, *Tursiops truncatus*, to 1-second tones of 141 to 201 dB re 1 μ Pa. Technical Report 1751, Naval Command, Control and Ocean Surveillance Center, 32 pp.
- Risch D, Norris T, Curnock M, Friedlaender A. 2019. Common and Antarctic Minke Whales: Conservation Status and Future Research Directions. *Frontiers in Marine Science*. 6.
- Rogers, Tracey. (2009). Leopard seal: *Hydrurga leptonyx*. *Encyclopedia of Marine Mammals*. 673-674. 10.1016/B978-0-12-373553-9.00155-3.
- Rolland, R.M., S.E. Parks, K.E. Hunt, M. Castellote, P.J. Corkeron, D.P. Nowacek, et al. 2012. Evidence that ship noise increases stress in right whales. *Proceedings of the Royal Society of London Series B Biological Sciences* 279 (1737):2363-2368.
- Romano, T., M. Keogh, and K. Danil. 2002a. Investigation of the effects of repeated chase and encirclement on the immune system of spotted dolphins (*Stenella attenuata*) in the eastern tropical Pacific. Administrative Report LJ-02-35C, National Marine Fisheries Service: 37.
- Romano, T.A., D.L. Felten, S.Y. Stevens, J.A. Olschowka, V. Quaranta, and S.H. Ridgway. 2002b. Immune response, stress, and environment: Implications for cetaceans. Pages 253-279 in C.J. Pfeiffer, ed. *Molecular and Cell Biology of Marine Mammals*. Krieger Publishing Co., Malabar, Florida.
- Romano, T.A., M.J. Keogh, C. Kelly, P. Feng, L. Berk, C.R. Schlundt, et al. 2004. Anthropogenic sound and marine mammal health: Measures of the nervous and immune systems before and after intense sound exposure. *Canadian Journal of Fisheries and Aquatic Sciences* 61:1124-1134.
- Russell DJ, Hastie GD, Thompson D, Janik VM, Hammond PS, Scott-Hayward LA, Matthiopoulos J, Jones EL, McConnell BJ. 2016. Avoidance of wind farms by harbour seals is limited to pile driving activities. *J Appl Ecol*. 53(6):1642-1652.
- Santora JA, Force MP, Ampela K, Van Cise A. 2009. Distribution, abundance and behavior of seabirds and mammals at sea. In: Van Cise AM, editor. *AMLR 2009/2009 Field Season Report, Objectives, Accomplishments and Tentative Conclusions*. Antarctic Ecosystem Research Division National Oceanic and Atmospheric Administration. p. 44-48.
- Santora, J. A. (2012). Habitat use of hourglass dolphins near the south shetland islands, antarctica. *Polar Biology*, 35(5), 801-806. doi:<http://dx.doi.org/10.1007/s00300-011-1133-8>
- Santulli, A., A. Modica, C. Messina, L. Ceffa, A. Curatolo, G. Rivas, et al. (1999). Biochemical responses of European sea bass (*Dicentrarchus labrax* L.) to the stress induced by offshore experimental seismic prospecting. *Marine Pollution Bulletin*, 38(12), 1105-1114.
- Schlundt, C.E., J.J. Finneran, D.A. Carder, and S.H. Ridgway. 2000. Temporary shift in masked hearing thresholds of bottlenose dolphins, *Tursiops truncatus*, and white whales, *Delphinapterus leucas*, after exposure to intense tones. *Journal of the Acoustical Society of America* 107 (6):3496-3508.

- Scholik, A.R. and H.Y. Yan. (2001). The effects of underwater noise on auditory sensitivity of fish. *Proceedings of the Institute of Acoustics*, 23(4), 27.
- Seyle, H. 1950. Stress and the general adaptation syndrome. *British Medical Journal* June 17:1383-1392.
- Skalski, J.R., W.H. Pearson, and C.I. Malme. (1992). Effects of sounds from a geophysical survey device on catch-per-unit-effort in a hook-and-line fishery for rockfish (*Sebastes* spp.). *Canadian Journal of Fisheries and Aquatic Sciences*, 49, 1357-1365.
- Slade RW, Moritz C, Hoelzel AR, Burton HR. Molecular population genetics of the southern elephant seal *Mirounga leonina*. *Genetics*. 1998 Aug;149(4):1945-57. PMID: 9691049; PMCID: PMC1460292.
- Southall BL, Bowles AE, Ellison WT, Finneran JJ, Gentry RL, Greene CR, Kastak D, Ketten DR, MillerJH, Nachtigall PE et al. 2007. Marine Mammal Noise Exposure Criteria: Initial Scientific Recommendations. *Aquatic Mammals*. 33(4):411-414.
- Southall BL, Finneran JJ, Reichmuth C, Nachtigall PE, Ketten DR, Bowles AE, Ellison WT, NowacekDP, Tyack PL. 2019. Marine Mammal Noise Exposure Criteria: Updated Scientific Recommendations for Residual Hearing Effects. *Aquatic Mammals*. 45(2):125-232.
- Southwell C, Bengtson JL, Bester MN, Blix AS, Bornemann H, Boveng PL, Cameron MF, Forcada J, Laake JL, Nordoy E et al. 2012. A Review of Data on Abundance, Trends in Abundance, HabitatUse and Diet of Ice-Breeding Seals in The Southern Ocean. *CCAMLR Science*. 19.
- Teilmann, J., J. Tougaard, L.A. Miller, T. Kirketerp, K. Hansen, and S. Brando. 2006. Reactions of captive harbor porpoises (*Phocoena phocoena*) to pinger-like sounds. *Marine Mammal Science* 22 (2):240-260.
- Thomas JA, Terhune J. 2009. Weddell Seal *Leptonychotes weddelli*. In: Perrin WF, Wursig B, Thewissen JGM, editors. *Encyclopedia of Marine Mammals*. San Diego, CA: Academic Press. p. 1217-1220.
- Thorson, P. and J.A. Reyff. 2006. San Francisco-Oakland Bay Bridge East Span Seismic Safety Project: marine mammal and acoustic monitoring for the marine foundations at piers E2 and T1, January-September 2006. Prepared by SRS Technologies and Illingworth & Rodkin, Inc. for the California Department of Transportation: 51.
- Wardle, C.S., T.J. Carter, G.G. Urquhart, A.D.F. Johnstone, A.M. Ziolkowski, G. Hampson, and D. Mackie. (2001). Effects of seismic air guns on marine fish. *Continental Shelf Research*, 21, 1005-1027.
- Wartzok, D. and D.R. Ketten. (1999). Marine mammal sensory systems. Pages 117-175 in J.E. Reynolds and S.A. Rommel, eds. *Biology of Marine Mammals*. Smithsonian Institution Press, Washington.
- Wartzok, D., A.N. Popper, J. Gordon, and J. Merrill. (2003). Factors affecting the responses of marine mammals to acoustic disturbance. *Marine Technology Society Journal*, 37(4), 6-15.
- WSDOT. 2015. Biological Assessment Preparation for Transportation Projects - Advanced Training Manual - Version 2015. Environmental Services Office. Lacey, WA.

- Weilgart, L.S. (2007). A brief review of known effects of noise on marine mammals. *International Journal of Comparative Psychology*, 201 (2-3), 159-168.
- Whitehead, H. 2002. Estimates of the current global population and historical trajectory for sperm whales. *Marine Ecology Progress Series* 242:295-304.
- Williams R, Hedley S, Hammond PS. 2006. Modeling Distribution and Abundance of Antarctic Baleen Whales Using Ships of Opportunity. *Ecology and Society*. 11(1).
- Wright, A. J, Soto, N. A, Baldwin, A. L, Bateson, M., Beale, C. M, Clark, C., et al. (2007). Do Marine Mammals Experience Stress Related to Anthropogenic Noise? *International Journal of Comparative Psychology*, 20(2). <http://dx.doi.org/10.5070/P4202009994>
Retrieved from <https://escholarship.org/uc/item/6t16b8gw>
- Wursig B, Thewissen JGM, Kovacs KM. 2018. *Encyclopedia of Marine Mammals*. London, United Kingdom: Academic Press.
- Wynen, Louise & Goldsworthy, Simon & Guinet, Christophe & Bester, Marthán & Boyd, Ian & Gjertz, Ian & Hofmeyr, Greg & White, Robert & Slade, Rob. (2000). Postsealing genetic variation and population structure of two species of fur seal (*Arctocephalus gazella* and *A. tropicalis*). *Molecular ecology*. 9. 299-314. 10.1046/j.1365-294x.2000.00856.x.
- Yazvenko, S.B., T.L. McDonald, S.A. Blokhin, S.R. Johnson, H.R. Melton, M.W. Newcomer, et al. (2007). Feeding of western gray whales during a seismic survey near Sakhalin Island, Russia. *Environmental Monitoring and Assessment*, 134(1-3), 93-106.
- Yost, W. A. (2007). *Fundamentals of Hearing: An Introduction* (Academic Press, New York), 326 pp